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Synchaetomella aquatica sp. nov. from submerged leaves from Brazil

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Abstract — *Synchaetomella aquatica,* a new microfungus collected on the submerged decaying leaves of *Calophyllum brasiliense*, is described and illustrated. It is distinguished by conidiogenous cells that are synnematal, determinate conidiomata, monophialidic, discrete, and terminal and solitary falcate unicellular hyaline conidia.

Key words — asexual fungi, systematics, freshwater fungi

Introduction

During the studies of saprobic conidial fungi colonizing submerged leaves of *Calophyllum brasiliense* in the Brazilian semiarid Caatinga biome, an interesting fungus belonging to the genus *Synchaetomella* was collected. Critical morphological observation of the specimen revealed it to be an undescribed species, which we describe here as *S. aquatica.*

Materials & methods

During several expeditions between November 2013 to May 2014 through "Serra da Tromba" in the semiarid region northeastern Brazil, samples of submerged leaves of *Calophyllum brasiliense* were stored in litter bags, taken to the laboratory, and processed according to Castañeda Ruiz (2005). Mounts were prepared in PVL (polyvinyl alcohol and lactic acid) and measurements were made at a magnification of ×1000. Micrographs were obtained with an Olympus microscope (model BX51) with bright field and Nomarski interference optics. The type specimen of the new species is deposited in the Herbarium of "Universidade Estadual de Feira de Santana" (HUEFS).

Taxonomy

Synchaetomella aquatica Fiuza, Gusmão & R.F. Castañeda, **sp. nov.** FIGS 1, 2

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Differs from all other *Synchaetomella* spp. by its exclusively terminal conidiogenous cells.

TYPE: Brazil, Bahia, Piatã, Chapada Diamantina, Serra da Tromba, 13°07′S 41°50′W, on decaying submerged leaves of *Calophyllum brasiliense* Cambess. (*Calophyllaceae*), 11.XI.2013, coll. P.O. Fiuza (**Holotype**, HUEFS 209015).

ETYMOLOGY: Latin, *aquatica*, referred to its growing in water.

On the natural substratum mycelium partly immersed and partly superficial. Hyphae septate, branched, smooth, pale brown, 2–3 µm diam. CONIDIOMATA synnematal, determinate, scattered, erect, cylindrical, dark brown, 60–150 µm tall, 25–30 µm wide. STIPE composed of parallel hyphal filaments (conidiophores), multi-septate, straight, cylindrical, closely packed at the base and slightly loosely and branched towards the apex, brown below, brown or pale brown above, smooth, 1.5–3 µm diam. CONIDIOGENOUS CELLS monophialidic, discrete, terminal, determinate, brown to pale brown, 15–45 × 1.5–2.5 µm with a narrow, slightly obscure, sub-cupulate collarette with a distinct, very narrow periclinal channel, 1–2.5 µm deep. CONIDIA solitary, acrogenous, falcate, unicellular, 8–18 × 1.5–2 µm, smooth, hyaline, accumulating in a white mucilaginous mass.

NOTE: Decock et al. (2005) introduced the synnematous genus *Synchaetomella* Decock & Seifert, typified by *S. lunatospora* Decock et al. and characterized by phialidic, terminal and intercalary conidiogenous cells and falcate, 0–1-septate, hyaline conidia. The second species, *S. acerina* (Seifert & Louis-Seize 2012), also has intercalary and terminal conidiogenous cells, but the conidia are unicellular, allantoid to ellipsoidal. *Synchaetomella aquatica* is clearly differentiated by the terminal subulate conidiogenous cells.

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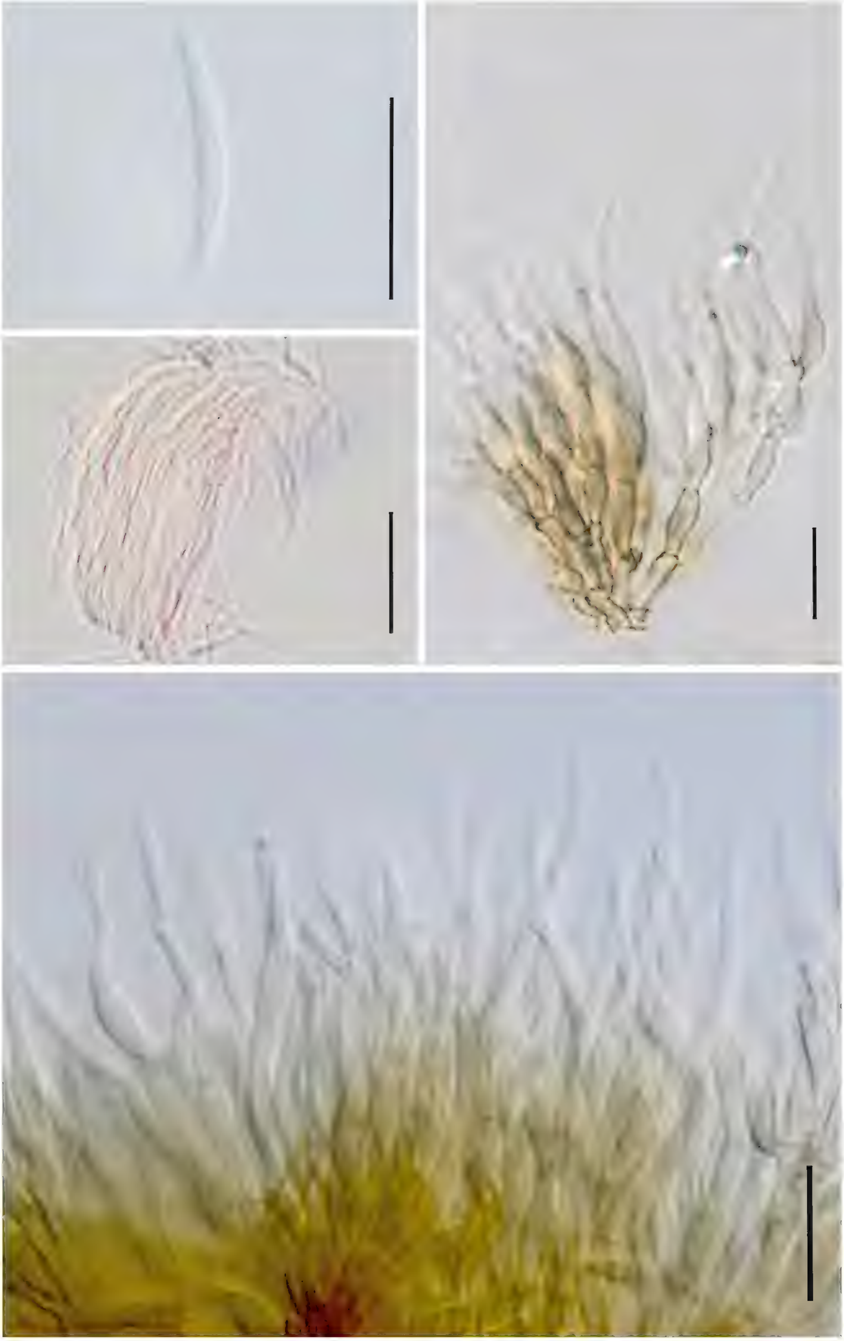
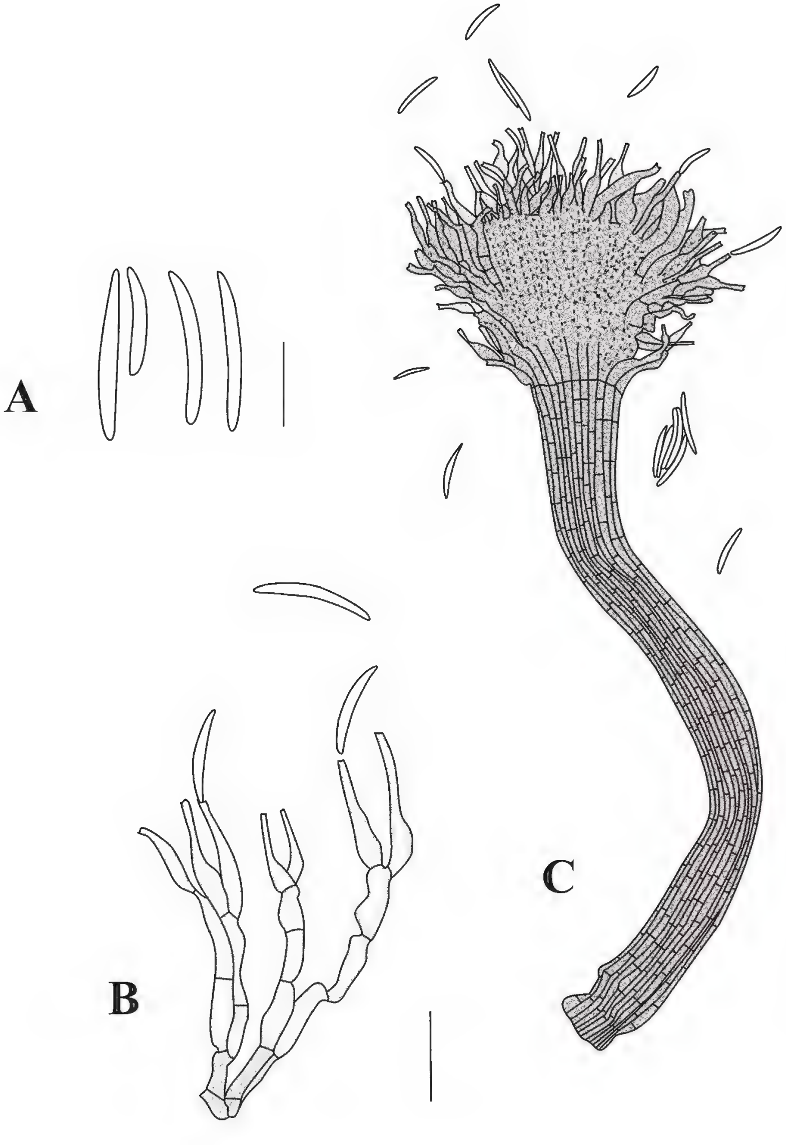
FIG. 1. *Synchaetomella aquatica* (ex holotype HUEFS 209015). A, B. conidia; C, D. conidiogenous cells and conidia. Scale bars: A, C, D = 10 µm, B = 20 µm.





Fɪɢ 2. *Synchaetomella aquatica* (ex holotype HUEFS 209015).
A. conidia; B. conidiogenous cells and conidia; C. synnema.
Scale bars: A, B = 10 µm; C = 25 µm.

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